

What is claimed is:

1. A method of generating a color conversion table for
converting color data D to be processed by a first device
5 into color data D' to be processed by a second device, com-
prising the steps of:

setting a constraint condition;
generating a color conversion table between at least
portions of said color data D, D' according to said con-
10 straint conditions; and

generating a color conversion table between remainders
of said color data D, D' in colorimetric association there-
with.

15 2. A method according to claim 1, wherein said con-
straint condition comprises a condition for constraining a
relationship for converting at least one primary color data.

20 3. A method according to claim 1, wherein said con-
straint condition comprises a condition for constraining a
relationship for converting at least one secondary color
data.

25 4. A method according to claim 1, wherein said con-
straint condition comprises a condition for saving halftone
dot area percentages of particular ranges in said at least
portions of said color data D, D'.

5. A method according to claim 4, wherein said particular range is established in a highlight area and/or a shadow area of said color data D, D'.

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6. A method according to claim 4, wherein said constraint condition comprises a condition for equalizing the halftone dot area percentages of said particular ranges in said at least portions of said color data D, D', and a condition for gradually shifting halftone dot area percentages of junction ranges between said particular ranges and other ranges from the halftone dot area percentage of said color data D to the halftone dot area percentage of said color data D'.

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15. A method according to claim 6, wherein said condition for gradually shifting the halftone dot area percentages of the junction ranges comprises a condition for interpolating the halftone dot area percentages of said particular ranges and the halftone dot area percentages of the junction ranges.

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8. A method according to claim 1, wherein said constraint condition comprises a condition for saving dot gains of said at least portions of said color data D, D'.

9. An apparatus for generating a color conversion table for converting color data D to be processed by a first de-

vice into color data D' to be processed by a second device, comprising:

constraint condition setting means for setting a constraint condition; and

color conversion table generating means for generating a color conversion table between at least portions of said color data D, D' according to said constraint conditions, and generating a color conversion table between remainders of said color data D, D' in colorimetric association therewith.

10. An apparatus according to claim 9, wherein said constraint condition setting means comprises:

constraint condition storage means for storing constraint conditions; and

constraint condition selecting means for selecting the desirable constraint condition from said constraint condition storage means.

20. An apparatus according to claim 9, further comprising:

color conversion table storage means for storing a color conversion table in colorimetric association between all said color data D, D';

25. said color conversion table generating means comprising means for modifying said color conversion table into a new color conversion table based on said constraint condition.

12. An apparatus according to claim 11, wherein said
color conversion table storage means comprises:

a first profile storage unit for storing a first pro-
file representing a conversion relationship between said
color data D and colorimetric data; and

5 a second profile storage unit for storing a second pro-
file representing a conversion relationship between said
colorimetric data and color data D'.

10 13. An apparatus according to claim 12, wherein said
first profile comprises a profile established depending on
printing conditions of a printing machine, and said second
profile comprises a profile established depending on output
conditions of a printer.

15 14. An apparatus for generating a proof by converting
image data composed of color data D to be processed by a
first device into image data composed of color data D' to be
processed by a second device, using a color conversion ta-
ble, and generating a proof of an image produced by said
20 first device with said second device, comprising:

constraint condition setting means for setting a con-
straint condition;

25 color conversion table generating means for generating
a color conversion table between at least portions of said
color data D, D' according to said constraint conditions,
and generating a color conversion table between remainders

of said color data D, D' in colorimetric association therewith;

color converting means for converting said color data D into said color data D' using said color conversion table generated by said color conversion table generating means; 5 and

proof output means for outputting said proof based on said color data D'.

10 15. An apparatus according to claim 14, wherein said constraint condition setting means comprises:

constraint condition storage means for storing constraint conditions; and

constraint condition selecting means for selecting the constraint condition from said constraint condition storage means.

20 16. An apparatus according to claim 14, further comprising:

color conversion table storage means for storing a color conversion table in colorimetric association between all said color data D, D' ;

25 said color conversion table generating means comprising means for modifying said color conversion table into a new color conversion table based on said constraint condition.

17. An apparatus according to claim 14, wherein said

proof output means comprises a printer.

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